

REMARKS/ARGUMENTS

Applicant has reviewed and considered the Office Action mailed on October 21, 2004, and the references cited therewith.

Claims 1, 12, 16, and 23 are amended and claims 7 and 21 are cancelled. Claims 1-6, 8-20, and 22-30 are now pending in this application.

Applicant respectfully submits that the amendments to claims 1, 12, 16, and 23 do introduce any new subject matter.

§103 Rejection of the Claims

Claims 1-15

Claims 1, 7, 9-10 and 12 were rejected under 35 USC §103(a) as being unpatentable over Pinsky, et al. (U.S. Patent No. 5,655,084) in view of Tian, et al. (U.S. Patent No. 5,671,353), and further in view of Yang, et al. (U.S. Patent No. 5,465,331) hereinafter referred to as Pinsky, Tian, and Yang respectively. Claim 7 has been cancelled, making a response to its rejection moot.

Claims 2-3 were rejected under 35 USC §103(a) as being unpatentable over Pinsky, Tian, and Yang as applied to the claims above, and further in view of Cawley (U.S. Patent No. 5,361,334).

Claims 4-6, 8, and 13-15 were rejected under 35 USC §103(a) as being unpatentable over Pinsky, Tian, and Yang, as applied to the claims above, and further in view of Johnson (U.S. Patent No. 6,351,547).

Claim 11 was rejected under 35 USC §103(a) as being unpatentable over Pinsky, Tian, and Yang, as applied to the claims above, further in view of Wahle (Secure Inter-Institutional Image Communication by using DICOM-DICOM Gateways-[retrieved IEEE database]), and further in view of Fendick (U.S. Patent No. 6,252,857).

Applicant respectfully traverses the rejections, to the extent such rejections may be considered applicable to the claims as amended, as follows.

Claims 1 and 12

In the office action, the Examiner indicated that Pinsky fails to disclose, besides other things, validating non-pixel data, but that this would have been an

obvious modification in view of Tian. The Examiner further indicates that "Tian discloses a method for validating the non-pixel data of medical image assets . . . in order to 'facilitate the transmission on digitized medical imagery', (column 1, lines 43-67 and column 2, lines 40-60)." In other words, Pinsky and Tian validate the destination for the data, but do not validate the accuracy of the data being transmitted.

In contrast, Applicant's independent claim 1 recites, besides other things, a method that includes storing an asset and validating non-pixel data in parallel, where validating the non-pixel data includes issuing a reconciliation event when the non-pixel data is invalid or missing. In addition, Applicant's independent claim 12 recites, a method that includes issuing a reconciliation event when non-pixel data is invalid or missing and requesting the invalid or missing non-pixel data to reconcile the non-pixel data. Pinsky and Tian do not describe, besides other things, a method that includes issuing a reconciliation event when non-pixel data is invalid or missing. As such, Applicant submits that independent claims 1 and 12, as amended, are distinguishable from the cited references.

The Examiner has noted in connection with previous claim 7 that "Pinsky, Tian, and Yang show the medical image routing method wherein validating the non-pixel data includes issuing a reconciliation event (i.e. warning) when the non-pixel data is invalid, (Tian column 5, lines 16-21 and column 10, lines 21-29)." Applicant respectfully submits that a "warning" as provided in Tian and a "reconciliation event" as provided by the Applicant are patentably distinct.

That is, the Examiner notes that the references are validating non-pixel data by issuing a warning "so as to ensure that the transmitted assets (i.e. DICOM messages) are compatible with the local environment picture archival system and thereby improving reliability of the distribution method, (Tian column 5, lines 6-13)". This is in contrast to the Applicant's use and definition of "issuing a reconciliation event when the non-pixel data is invalid or missing". Effectively, these references are validating and/or issuing a "warning" to ensure that a protocol for transmission between two environments is compatible. As the Examiner understands, DICOM is a **protocol** which defines data format and data transfer services, but does not concern the data **content** itself.

By contrast, Applicant's "reconciliation event" is focused on validating the "data" itself and not merely confirming a correct protocol usage. For example, the Applicant's specification on page 10, lines 19-23 recites:

Upon detecting missing or invalid data within an incoming asset, verification module 46 issues a **reconciliation event 37** to patient manager 48, **which provides for the reconciliation of medical imaging data (i.e., content), such as patient information, session information and the and the like (i.e., study information and image information-see lines 12-14).**

On page 11, lines 20-30, the Applicant's specification recites:

As discussed above, verification module 46 issues a reconciliation event 37 when encapsulated data of an inbound network communication 32 is invalid or missing. Upon receiving a **reconciliation event 37**, patient manager 48 **examines** routing information 34 **to identify network destinations that may store relevant patient information, and queries the remote destinations in an attempt to automatically reconcile the data.** Patient manager 48 may, for example, invoke HIS/RIS interface 39 to **retrieve patient data** from a remote HIS/RIS system 8. In this manner, patient manager 48 may leverage routing information 34 to identify the available data sources within the system 2. In addition, as illustrated below, patient manager 48 **provides a user interface by which an operator can manually query the remote network resources and reconcile the non-pixel data within a storage asset, such as the demographical information for a patient.**

On page 12, lines 16-19, the Applicant's specification recites:

Upon validating the data, or upon **reconciling** and invalid or missing data (57), router 10 identifies destination information within the assets, and **compares** the non-pixel medical imaging data encapsulated within the assets **to the set of rules 38 (58).**

And, on pages 19 forward in connection with Figures 10 et seq., the Applicant's specification recites:

FIG. 10 illustrates an example user interface 95 presented by router 10 by which an operator hierarchically defines routing logic and constructs **a rule for rule set 38**. In particular, the operator can input a rule name 97, and hierarchically define specific data tags, 95, logical operators 98 and corresponding data values 99 for the rule as a complex grammar.

FIG. 11 illustrates an example user interface presented by patient manager 48 upon detecting errors within medical imaging data received from the various departments 6. In particular, user interface 100 displays **a list of reconciliation events that have been generated by router 10 upon receiving and detecting mismatched or otherwise invalid data**. In the illustrated example, interface 100 displays event list 102 having three events. **For each event, interface 100 displays an identifier for the medical imaging tag corresponding to the data in error, a source medical imaging modality, an event identifier, a date and time of the event, a patient identifier, a study identifier, a series identifier, and an image identifier**. For each event, the user may select and highlight the event and elect to view the properties of the event.

FIG. 12 illustrates an example user interface 104 displayed by patient manager 48 when the user **elects to view the properties of a particular reconciliation event**. In particular, user interface 104 displays the data associated with the event in hierarchical fashion. User interface 104, for example, **displays patient data 106, study data 108, series data 110, and image data 112 that relate to the event**. In addition, user interface 104 **highlights the tag 114 for which patient manager 48 has identified missing or invalid data**. Upon selecting the tag, user interface 104 displays window 116 by which the user can reconcile the data. **In particular, the user may elect to edit the data directly, or search a number of resources within system 2, including a DICOM database storing medical imaging information, as well as an HIS/RIS database**. Upon selecting one of the resources, patient manager 48 polls the selected resource and displays any identified relevant data in order to assist the operator in reconciling the missing data in the storage asset.

The Yang reference does not cure the deficiencies of Pinsky and Tian. The Yang reference appears to describe a parallel, scalable internetworking unit architecture (Abstract). The Yang reference does not teach or suggest issuing a

reconciliation event when non-pixel data is invalid or missing. As such, each and every element and limitation are not provided in the references, either independently or in combination, to support a §103 rejection of claims 1 and 12.

Accordingly, reconsideration and withdrawal of the §103 rejection for independent claims 1 and 12, as well as those claims which depend therefrom, are respectfully requested. Claims 2-6 and 8-11 are dependent claims upon independent claim 1, and claims 13-15 are dependent claims upon independent claim 12. Accordingly, Applicant asserts that claims 2-6 and 8-15 are deemed allowable upon the basis discussed above.

Claims 16-22

Claims 16 and 21 were rejected under 35 USC §103(a) as being unpatentable over Haworth, et al. (U.S. Patent No. 6,661,228), in view of Flaig, et al. (U.S. Patent No. 5,105,424), further in view of Tian, et al. (U.S. Patent No. 5,671,353), and further in view of Yang, et al. (U.S. Patent No. 5,465,331) hereinafter referred to as Haworth, Flaig, Tian, and Yang respectively. Claim 21 has been cancelled, making a response to its rejection moot.

Claim 17 was rejected under 35 USC §103(a) as being unpatentable over Haworth Flaig, Tian, and Yang and further in view of Cawley, (U.S. Patent No. 5,361,334).

Claims 18-20 were rejected under 35 USC §103(a) as being unpatentable over Haworth Flaig, Tian, and Yang and further in view of Johnson (U.S. Patent No. 6,351,547).

Claim 22 was rejected under 35 USC §103(a) as being unpatentable over Haworth, Flaig, Tian, and Yang further in view of Wahle (Secure Institutional Image Communication by using DICOM-DICOM Gateways-[retrieved IEEE database]), and further in view of Fendick (U.S. Patent No. 6,252,857).

Applicant respectfully traverses the rejections, to the extent such rejections may be considered applicable to the claims as amended, as follows.

Claim 16

In the office action, the Examiner indicates that Haworth and Flaig fail to disclose, besides other things, “a validation software module that validates the non-pixel data, and forwards the storage asset upon the validation of non-pixel data,” but that this modification would have been an obvious modification to a router in view of Tian. Specifically, the Examiner asserts that “Tian discloses a software module for validating the non-pixel data of medical image assets . . . in order to ‘facilitate the transmission on digitized medical imagery’, (column 1, lines 43-67 and column 2, lines 40-60).” In other words, Haworth, Flaig and Tian validate the destination for the data, but do not validate the accuracy of the data being transmitted.

In contrast, Applicant’s independent claim 16 recites a router that includes, besides other things, a validation software module that validates the non-pixel data in parallel with the storage of the asset, where the validation software module issues a reconciliation event when the non-pixel data is invalid or missing to reconcile the invalid or missing data. Haworth, Flaig and Tian do not describe a validation software module that issues a reconciliation even when the non-pixel data is invalid or missing to reconcile the invalid or missing data. Validating a protocol for data exchange is not equivalent to validating the data itself in a reconciliation event. As such, Applicant submits that independent claim 16, as amended, is distinguishable from the cited references.

The Yang reference does not cure the deficiencies of Haworth, Flaig and Tian, as discussed above for claims 1 and 12. As such, each and every element and limitation are not provided in the references, either independently or in combination, to support a §103 rejection of claim 16.

Accordingly, reconsideration and withdrawal of the §103 rejection for independent claim 16, as well as those claims which depend therefrom, are respectfully requested. Claims 17-20 and 22 are dependent claims upon independent claim 16. Accordingly, Applicant asserts that claims 17-20 and 22 are deemed allowable upon the basis discussed above.

Claims 23-30

Claims 23 and 25 were rejected under 35 USC §103(a) as being unpatentable over Schnellinger, et al. (U.S. Patent No. 5,642,513), in view of Fendick, et al. (U.S. Patent No. 6,252,857), hereinafter referred to as Schnellinger, and Fendick respectively.

Claim 24 was rejected under 35 USC §103(a) as being unpatentable over Schnellinger and Fendick, as applied to the claims above, and further in view Wahle (Secure Inter-Institutional Image Communication by using DICOM-DICOM Gateways-[retrieved IEEE database]).

Claims 26-28 were rejected under 35 USC §103(a) as being unpatentable over Schnellinger and Fendick, as applied to the claims above, and further in view of Cooke, Jr. et al. (U.S. Patent No. 6,574,629).

Claims 29-30 were rejected under 35 USC §103(a) as being unpatentable over Schnellinger and Fendick, as applied to the claims above, and further in view of Martin, et al. (U.S. Patent 6,532,455).

Applicant respectfully traverses the rejections, to the extent such rejections may be considered applicable to the claims as amended, as follows.

Claim 23

In the office action, the Examiner indicated that Schnellinger "discloses a method that supports automated routing of digital medical imagery to a plurality of destinations throughout a network." In addition, the Examiner indicated that "[a]lthough Schnellinger discloses substantial features of the claimed invention, the reference fails to explicitly disclose the forwarding the network communications to selected route in parallel," but that this "modification to the Autorouter method would have been obvious . . . as further evidenced by Fendick."

In contrast, Applicant's independent claim 23 recites, besides other things, a method that includes validating a storage asset. Schnellinger, and Fendick do not describe validating a storage asset. Nor do any other cited references address validating a storage asset. Again, Applicant respectfully submits that validating a protocol for data exchange is not equivalent to validating the storage asset itself, e.g., reconciling invalid data and missing data of the storage asset. As such, Applicant submits that independent claim 23, as amended, is distinguishable from the cited references.

Accordingly, reconsideration and withdrawal of the §103 rejection for independent claim 23, as well as those claims which depend therefrom is respectfully requested. Claims 24-30 are dependent claims upon independent claim 23. Accordingly, Applicant asserts that claims 24-30 are deemed allowable upon the basis discussed above.

CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney at (612) 659-9340 to facilitate prosecution of this matter.

CERTIFICATE UNDER 37 CFR §1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: **MS AMENDMENT** Commissioner of Patents, P.O. BOX 1450, Alexandria, VA 22313-1450 on this 20th day of January, 2005.

Sarah L. Reinhard
Name

Sarah L. Reinhard
Signature

Respectfully Submitted,
David P. Gendron, et al.

By their Representatives,
BROOKS & CAMERON, PLLC
1221 Nicollet Avenue, Suite 500
Minneapolis, MN 55403

By: Joseph C. Huebsch
Joseph C. Huebsch
Reg. No. 42,673

Date: Jan. 20, 2005